REMARKS

Claim rejections under 35 USC 112

Claims 18-20 have been rejected under 35 USC 112, because they recite the limitation "The medium of claim 16," and there is no antecedent basis for "The medium" in claim 16. Applicant notes that what happened is that claims 18-20 were erroneously denoted as depending from claim 16, instead of from claim 17, which is an independent claim directed to "A computer-readable medium." Applicant has thus amended these claims so that they correctly depend from claim 17, instead of from claim 16, and requests that this rejection be withdrawn.

Applicant further requests that this amendment be entered, as it places the application in better condition for appeal. That is, this amendment definitively overcomes the rejections made under 35 USC 112, narrowing the issues for appeal to just the rejections under 35 USC 103, should such an appeal prove necessary.

Claim rejections under 35 USC 103 as to claims 1, 2, 5, 8, 9, 10, 13, 16, 17, and 18

Claims 1, 2, 5, 8-10, 13, and 16-18 have been rejected under 35 USC 103(a) as being unpatentable over Sherman (5,537,516) in view of Yamada (6,331,042). Claims 1, 9, and 17 are independent claims, from which the remaining pending claims depend. Applicant submits that claims 1, 9, and 17 are patentable over Sherman in view of Yamada, such that all of the claims are patentable over Sherman in view of Yamada.

Applicant particularly submits that claims 1, 9, and 17, insofar as they are limited to a "color calibration approach" being "input by a user as a desired one of a number of different color calibration approaches" are not rendered unpatentable over Sherman in view of Yamada. That is, in the claimed invention, the user gets to input the color calibration approach, as a desired calibration approach selected from a number of different color calibration approaches, and this

user-input color calibration approach is that which is used for color calibration. Applicant contends that this limitation is particularly not taught in Sherman in view of Yamada.

Applicant structures his argument as follows to explain why Sherman in view of Yamada does not teach this limitation of the claimed invention. First, Applicant notes that the Examiner relies upon Yamada in teaching this aspect of the claimed invention, such that Applicant initially concentrates on what Yamada teaches. Applicant then considers what Sherman in combination with Yamada teaches. In light of what Sherman in combination with Yamada, Applicant submits and concludes that Sherman in view of Yamada does not disclose the claimed invention.

As has been noted, the Examiner relies upon Yamada as teaching a color calibration approach being input by a user as a desired one of a number of different color calibration approaches. However, Yamada does not teach this aspect of the claimed invention. As a general matter, Yamada is directed to overcoming a certain problem in the prior art, notably, that conventional color calibration "require[s] that an image scanner or an intensity level meter" be used "for measuring the intensity of printed patches." (Col. 1, ll. 29-31) This is problematic, because it causes the resulting printer to be "complicated," "large," and "[t]he cost of the apparatus increases." (Col. 1, ll. 32-36)

Therefore, what Yamada provides for is, in conjunction with a given color calibration approach, the "inputting [of] a command issued by a user to specify a particular patch in the chart." (Col. 1, ll. 55-57) Thus, rather than requiring the use of an image scanner or an intensity level meter to measure the intensity of printed patches, the user instead specifies a particular patch. Therefore, the approach of Yamada is such that it does not "caus[e] an increase in the number of charts" and does not "caus[e] an increase in the labor time or effort of a user." (Col. 1, ll. 48-50) Importantly, however, Yamada does not have a user specify the actual color calibration approach to be employed, as in the claimed invention – rather, within the confines of a given color calibration approach, the user assists performance of color calibration by selecting a given printed patch on a chart, instead of having to use an image scanner or an intensity level meter. The failure

of Yamada to disclose a user specifying the actual color calibration approach to be employed is now discussed in detail.

Yamada discloses a number of different embodiments. In each embodiment of Yamada, a different color calibration approach is used. However, a user does not select among the different embodiments of Yamada, and thus does not select among different color calibration approaches for a desired approach to be used. Rather, for a given embodiment or color calibration approach in Yamada, the user selects color patches printed on a charge in accordance with the approach of that embodiment.

For instance, consider the first embodiment of Yamada, described beginning on column 2, line 46. The Examiner relies upon column 4, lines 3-24 of Yamada as teaching the input of a color calibration approach by a user as a desired one of a number of different color calibration approaches. Column 4, lines 3-24, are part of the description of this first embodiment of Yamada, which particularly and selectively recite the following:

> This chart is designed such that when a standard ink head and standard inks are used, the patch at the location C-3 has a minimum color difference . . . . A user selects a patch which has a minimum color difference (maximum color similarity) . . . from the patches of the chart and inputs the patch number of the selected patch using the parameter inputting means 303.
>
> The chart, in which the gray formed using the process black is combined with the gray formed using only the black ink as shown in FIG. 4, allows the user to easily distinguish the color difference.
>
> The parameter inputting means 303 displays a dialog box on a monitor screen so that the user can input the patch number using a keyboard or a mouse. In the present embodiment, the user inputs a combination of an alphabetic character and a numeric character printed on the chart.
>
> The parameter input via the parameter inputting means 303 is applied to table generation means 304. In accordance with the given parameter, the table generation means 304 generates a look-up table (LUT). . . . The combined look-up table represents the correction conditions to be employed by the intensity correction mechanism 103.
>
> By compensating for the variation in the characteristic with respect to the standard characteristic using the chart, it is possible to generate a look-up table . .

> which allows high-accuracy correction for the non-linear characteristic of a printer and also for variations of the ink head and inks.

(Col. 3, l. 55, through col. 4, l. 24) Thus, in the first embodiment of Yamada, the user does not select a desired color calibration approach to be used for color calibration. Rather, within the confines of a given color calibration approach used in the first embodiment of Yamada, the user selects a patch within a printed chart that has a minimum color difference. Yamada does not disclose that the user selects a color calibration approach to be employed, but rather that the user "selects a patch which has a minimum color difference," where the "parameter inputting means 303 displays a dialog box . . . so that the user can input the patch number." Inputting a patch number that is used for a given color calibration approach does not rise to the level of the user selecting a color calibration approach among a number of different color calibration approaches, as in the claimed invention, however.

Indeed, Yamada particularly describes a *single* color calibration approach that is used in this first embodiment. More particularly,

> The algorithm of producing the look-up table is described below. . . . If the gradients of the look-up table to be determined are represented by Y_i, M_i, C_i, and K_i, then they are given as follows: [listing of equations]
> Using the obtained gradients, a look-up table is produced in accordance with four parameters in terms of Y, M, C, and K.

(Col. 4, ll. 25-43) Therefore, you can see what is going in this first embodiment of Yamada. Yamada uses a particular algorithm for generating a look-up table. That is, Yamada uses a particular color calibration approach. In order to generate the look-up table, the approach requires that the user select a patch from a printed chart. The user does not select the color calibration approach in this first embodiment of Yamada, in contradistinction to the claimed invention.

Next, consider the second embodiment of Yamada, which is described in column 6, lines 1-44, and which the Examiner also relies upon as teaching the input of a desired color calibration approach from a number of different color calibration approaches. However, in the second

embodiment of Yamada as well, the user does not select a color calibration approach, but rather just selects a patch that is used in a particular color calibration approach. It is first useful to consider Yamada's initial description of this embodiment:

> Second Embodiment
>
> In the first embodiment described above, the invention is applied to a printer using four color inks, including Y, M, C, and K inks. In this second embodiment, the calibration capability described above with reference to the first embodiment is applied to a printer using six color inks . . . . [H]igh- and low-density inks are used for magenta and cyan.

(Col. 6, ll. 1-10) Thus, as a general matter, Yamada says the following in the above excerpt: whereas the first embodiment uses a color calibration approach that is applicable to a printer with four color inks, the second embodiment uses a color calibration approach that is applicable to a printer with six color inks. The user does not select which color calibration approach to use. Rather, in an embodiment where you have a printer with four color inks, you would use the first embodiment of Yamada. For an embodiment where you have a printer with six color inks, you would use the second embodiment of Yamada.

In this second embodiment, too, the user just selects a patch that is used within a given color calibration approach.

> In the present embodiment, two different calibration charges each similar to that shown in FIG. 4 are produced, and calibration is performed using these two charts. . . .
>
> A user selects a patch from the first chart to obtain the best balance between M[agenta]+ and C[yan]+ and selects a patch from the second chart to obtain the best balance between M[agenta]- and C[yan]-. The user then inputs the patch numbers of selected patches via the parameter inputting means 303 shown in FIG. 3. The subsequent process is performed in a similar manner as in the first embodiment except that six LUTs are created . . . .

(Col. 4, ll. 16-43) Therefore, in this second embodiment of Yamada, a user still does not input which color calibration approach is to be used. Rather, the user simply selects patches from printed charts, which are then used in relation to a given color calibration approach to generate

the LUTs. Like in the first embodiment, Yamada uses a particular algorithm for generating a look-up table, which is "similar" to "as in the first embodiment." Thus, Yamada uses a particular color calibration approach, in which the user gets to select a patch from a printed chart. The user does not select the color calibration approach in this second embodiment of Yamada, either, in contradistinction to the claimed invention.

Finally, the Examiner relies upon column 9, lines 22-30 of Yamada as teaching user selection of a color calibration approach from a number of different color calibration approaches. This excerpt of Yamada reads as follows:

> Sixth Embodiment
>
> In the first embodiment described above, the LUT is produced in a linear fashion in the calibration process. Instead, in this sixth embodiment, the LUT is produced in a non-linear fashion . . . .

Applicant presumes that the Examiner has relied upon this excerpt of Yamada to show that different color calibration approaches can be used in Yamada. Applicant does not deny this. However, importantly, Yamada nowhere discloses that a user selects which color calibration approach is to be used, from a number of different color calibration approaches. In all of the relied-upon excerpts of Yamada, and throughout Yamada, Yamada discloses a user merely selecting one or more patches from a printed chart, in relation to a given color calibration approach. The user selects patches from a chart – not the color calibration approach to be used. Therefore, Yamada does not disclose this aspect of the claimed invention.

With this understanding of what Yamada teaches, it is now useful to look at what the combination of Sherman in view of Yamada teaches. Sherman in view of Yamada teaches a number of different color calibration approaches can be used. For example, in column 15, lines 1-24, Sherman in particular discloses the following:

> The values are made continuous . . . by a piecewise linear curve-fitting interpolation between readings combined with extrapolation . . . . Alternatively, . . . interpolation and extrapolation other than piecewise linear may be used. In one such alternate embodiment, polynomial interpolation and extrapolation is used. In another alternate embodiment, logarithmic functions are used.

Thus, Sherman does disclose different color calibration approaches – but, like Yamada, in accordance with different embodiments of the invention. In one embodiment, the architecture of Sherman uses piecewise linear; in another embodiment, the architecture of Sherman uses polynomial; and in a third embodiment, Sherman uses logarithmic. There is not an "all-encompassing" embodiment in Sherman in which the user is to input the color calibration approach to actually be used from these different color calibration approaches. That is, a user in Sherman does not get to input or select *which* color calibration approach – such as linear, polynomial, or logarithm – that will be used for color calibration.

Now, if you add Yamada into the mix, what you get in the resulting combination of Sherman in view of Yamada is that different color calibration approaches can be employed in accordance with different embodiments, where in each given embodiment, rather than having to use "an image scanner or an intensity level meter" to measure the intensity of printed patches, a user can select patches him or herself, as in Yamada. That is, Sherman and Yamada are combinable, but the resulting combination does not yield the claimed invention. Rather, Sherman in view of Yamada teaches using different color calibration approaches in different embodiments, where the user assists in the performance of a given color calibration approach by selecting a patch from a printed chart of patches – the user does not select which color calibration approach is utilized in the first instance, in contradistinction to the claimed invention. There is not a single embodiment in Sherman in view of Yamada in which the user as a first matter gets to select which color-calibration approach is to be used.

Stated another way, once patches of a chart have been printed in Yamada, and thus in Sherman in view of Yamada, a color calibration approach has by this time already been implicitly selected, since the color patches themselves indeed would have to be printed in accordance with a color calibration approach. The color calibration approach determines what distinctions are important, and prints color patches on a chart that leverage those distinctions. (I.e., the algorithm of Yamada on column 4, lines 25-40, necessarily dictates which color patches are printed as

described in column 3, lines 34-65.) By the time the user is permitted to enter which color patch shows minimal color difference, then, the color calibration approach has long been settled upon. Thus, the user entering in color patches in Sherman in view of Yamada cannot be considered selection of a color calibration approach.

As a final note, Applicant compares another part of the claimed invention to the teachings of Sherman in view of Yamada. In claim 1, for instance, there is a "second interface to receive a color calibration approach input by a user as a desired one of a number of different color calibration approaches," as well as to receive "one or more target identifiers specifying the one or more color targets, *and a color patch order for each target identifier specifying the arrangement of the one or more color patches of a corresponding one of the one or more color targets.*" Now, compare this to the teachings of Sherman in view of Yamada. The relied upon aspects of Yamada in particular teach the following:

- "The chart includes 25 patches arranged in the form of a 5x5 array. . . . The parameter inputting means 303 displays a dialog box . . . so that the user can input *the patch number*." (Col. 3, l. 34, through col. 4, l. 7)
- "In the present embodiment, two different calibration charts similar to that shown in FIG. 4 are produced. . . . A user selects a patch from the first chart . . . and selects a patch from the second chart . . . . The user then inputs the patch numbers of selected patches via the parameter inputting means 303 shown in FIG. 3." (Col. 6, ll. 16-40)

Therefore, the aspect of the claimed invention that these aspects of Yamada that the Examiner has relied upon may at best teach is an interface that receives "one or more target identifiers specifying the one or more color targets, and a color patch order for each target identifier specifying the arrangement of the one or more color patches." Most definitely, these aspects of Yamada do not teach "an interface by which a color calibration approach is received, as input by a user as a desired one of a number of different color calibration approaches." Therefore, Sherman in view of Yamada cannot be considered as teaching this aspect of the claimed invention.

Stated another way, the approach that has to be followed in formulating a 35 USC 103(a) rejection is to see what the prior art teaches, and particularly combine the teachings of a number of references as best allowed legally, to yield the claimed invention, without employing impermissible hindsight reconstruction. Applicant asserts here that if you look at what Sherman in view of Yamada teaches, there is no way you can shoehorn Yamada's teachings in particular as to user input of patches into the claimed invention's user input of the desired color calibration approach to be utilized. Rather, the most broad and reasonable interpretation that you can provide at best to Sherman in view of Yamada is that Yamada in particular recites the claimed invention's selection of a patch (specifically by a user in Yamada), since that is indeed what Yamada explicitly recites. In other words, if you look at what Sherman in view of Yamada teaches, and then look at what the claimed invention is limited to, the most objective conclusion you can draw is that Sherman in view of Yamada does not teach the aspect of the claimed invention that a user gets to input a desired color calibration approach. The only way you can say that Sherman in view of Yamada teaches this aspect of the claimed invention is to use hindsight reconstruction to impermissibly bend, modify, and corrupt the teachings of Yamada in particular, since one of ordinary skill within the art, without having the benefit of the claims before him or her, would in no way interpret Yamada and thus Sherman in view of Yamada in this way. That is, without the claims before him or her, one of ordinary skill within the art would not conclude that combining Sherman with Yamada yields a system in which a user gets to select which color calibration approach is to be used, since at best Sherman in view of Yamada only teaches that a user gets to select a given patch from a set of patches printed in accordance with an already implicitly selected color calibration approach. For these reasons, then, Sherman in view of Yamada does not render the claimed invention unpatentable.

Claim rejections under 35 USC 103(a) as to claims 3, 4, 6, 7, 11, 12, 14, 15, 19, and 20

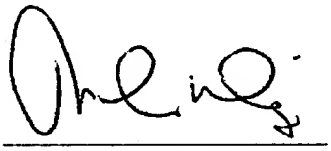
Claims 3 and 11 have been rejected under 35 USC 103(a) as being unpatentable over Sherman in view of Yamada, and further in view of Loushin (6,462,835). Claim 4 has been rejected under 35 USC 103(a) as being unpatentable over Sherman in view of Yamada, further in view of Loushin, and further in view of Collette (5,172,224). Claims 6-7 and 14-15 have been rejected under 35 USC 103(a) as being unpatentable over Sherman in view of Yamada and further in view of Kohler (2004/0160641). Claim 12 has been rejected under 35 USC 103(a) as being unpatentable over Sherman in view of Yamada and further in view of Harrington (6,178,007). Finally, claims 19 and 20 have been rejected under 35 USC 103(a) as being unpatentable over Sherman in view of Yamada and further in view of Hadley (5,995,714).

Claims 3-4, 6-7, 11-12, 14-15, and 19-20, however, are all dependent claims, depending ultimately from the independent claims 1, 9, and 17. Applicant therefore submits that these dependent claims are patentable at least because they depend from patentable independent claims, as discussed above.

Conclusion

Applicants have made a diligent effort to place the pending claims in condition for allowance, and request that they so be allowed. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Mike Dryja, Applicants' Attorney, at 425-427-5094, so that such issues may be resolved as expeditiously as possible. For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,



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